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ABSTRACT

A study investigated whether stress management could be enhanced among college students after the completion of a three credit personal health course. The subjects were 20 randomly selected male and female students enrolled in a personal health course at Emporia State University (Kansas). The 20 experimental subjects and the 15 members of a control group were pretested for stress management behavior prior to the training phase. Treatment sessions were included in the curriculum after initial class presentation on stress and stress management. Various relaxation techniques were introduced to the experimental subjects. These techniques included: (1) sensory awareness; (2) "Benson's Relaxation Response" (Benson, 1975); (3) Guided Imagery; (4) "Bubbling Brook" relaxation tape (Chen, 1979); (5) Stair-Step (Curtis/Detert, 1980); and (6) Standard Autogenic Relaxation (Jencks, 1973). Control subjects did not receive any treatment sessions and only completed the pre/post inventory. An analysis of pre- and post-training inventories indicated that the course was successful in helping the students to enhance their management of stress. (JD)

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INTEGRATING A STRESS MANAGEMENT MINI-COURSE INTO A PERSONAL HEALTH COURSE

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SP 021 981

Integrating A Stress Management Mini-Course Into

A Personal Health Course

> "Health education is a process which bridges the gap between health information and health practices. Health education motivates the person to take the information and do something with it - to keep himself healthier by avoiding actions that are harmful and by forming habits that are beneficial." (President's Committee of Health Education 1978)

With this basic philosophy in mind, the author wondered whether the basic mission of health education was being addressed in personal health courses. In personal health classes, taught by the author, an informal survey was conducted to determine what factors were affecting the quality of life for those particular college students. The result revealed five major areas of concern: (1) Stress, (2) Money, (3) Grades, (4) Sexual Responsibility, and (5) Drugs. The survey further showed that stress was the top priority for interference with the quality of life.

Data accumulated over the last 100 years have shown a shift in disease patterns from infections to stress-related disease processes (Germeroth, 1978). The increase in stress arousal causes changes in the organ systems usually in the form of hyperactivity of the body's autonomic and endocrine system, which could contribute to the development of cardiovascular disease and other degenerative diseases.

Stress is a word that is used and overused a great deal in our world today. How does one define stress? Stress has been described as the,

> "non-specific response of the body to any demand made upon it." (Selye, 1974)

Stress can be caused by biological, psychological, sociological, or philosophical stressors. Nuenberger (1981) has stated that stress is the most debilitating medical and social problem in the U.S. today.

SP 021 981

In 1981, Greenberg stated that stress often accompanies lifestyle changes for college students. Germeroth (1978) has further stated that stress is a potential difficulty for the college freshmen. Many freshman students show stress due to the adaptation to college life, academic difficulties, sexual freedon, alcohol and drugs. In addition there may be unusual pressures, such as death of a parent, severed heterosuxual relationships, social acceptability, unwanted pregnancy, and psychological abnormalities. Along with the stressors accompanying these life changes, researchers have established a specific relationship between stress arousal and dysfunction of various organ systems. This dysfunction can be caused by one's inability to cope with stress. Considering all these factors, it is apparant that college freshman might benefit from instruction in stress management.

Purpose

The purpose of this study was to investigate whether stress management could be enhanced among students at Emporia State University significantly at the .05 level of significance after the completion of a 3 credit semester hour personal health course.

Method

The experimental subjects had their personal health class scheduled for a Monday, Wednesday, Friday format. The experimental sample for this research were required to be present for ten (10) Friday class periods to be included in the study. The experimental subjects were 20 randomly selected male and female students from a group of 73 students enrolled in a personal health course, HL 150 - Health For Human Wholeness, at Emporia State University, Emporia, Kansas.

The control subjects were 15 randomly selected students from another class outside the health education discipline. The control group was scheduled to meet at the same class period as the experimental group and were taught by a different instructor than the author.

All subjects were pretested on the first day of the research using the Lang Stress Management Inventory developed by the researcher. The stress management instrument was validated for content validity in 1980 by a jury of six health professionals knowledgeable in the area of stress management. An evaluation form developed by Gilmore (1974), enabled jurors to respond to each of the statements indicating subject's behavior (positive or negative) in regards to stress management. A numerical rating system from 1 (not acceptable) to 5 (indispensable) was utilized to evaluate each statement. Evaluation consisted of calculation of the mean score for each statement. Statements with a mean score of 3.0 or above were accepted for inclusion in the inventory.

Reliability of the inventory was determined by pretesting a group of university students at the University of Wisconsin - La Crosse, La Crosse, Wisconsin. A reliability coefficient of .552 was calculated.

All experimental and control subjects were instructed to respond to each statement on a three-point scale of participation from "Always True", "Usually True", to "Never True". Each state of the inventory was given a numerical weight of either 5, 3, or 1. All positive stress management behaviors were given five (5) points and all negative behaviors were given one (1) point. All statements that were marked under the "usually" heading were given a numerical score of three (3). Total score values were calculated by summing the values from each statement response with 75 being the highest possible score.

Experimental subjects were scheduled for a 15-minute treatment session every Friday and had to complete ten (10) treatment sessions to be included in the study. The treatment sessions were included in the normal Health For Human Wholeness curriculum after initial class presentations on stress and stress management. Various relaxation techniques were introduced to the

experimental subjects. These techniques included: (1) Sensory awareness, (2) Benson's Relaxation Response (Benson, 1975), (3) Guided imagery, (4) "Bubbling Brook" Relaxation tape (Chen, 1979), (5) Stair-Step (Curtis/ Detert, 1980) and (6) Standard Autogenic Relaxation (Jencks, 1973).

The experimental subjects were asked to practice the procedures presented and to keep a record of their practice sessions. The control subjects did not receive any treatment sessions and only completed the pre/post inventory. All students were postested on the fourteenth week of the study using the Lang Stress Management Inventory.

Statistical Analysis of Data

Selection of test. A non-parametric statistical test was chosen for analysis of data of the Lang Stress Management Inventory. According to Blalock (1970):

> We would expect to find that non-parametric alternatives to the difference-of-means test will be most useful wherever either of two conditions is met: (1) we cannot legitimately use an interval data but ordering of scores is justified, or (2) the sample is small and normality cannot be assumed (p. 246).

The level of data collected is ordinal and the study population is relatively small: experimental (n=20) and control (n=15). Thus, the above criteria for use of non-parametric statistics was met.

Pretest Stress Management. All subjects were pretested for stress management behavior prior to the training phase of the research. Table 1 presents the pretest ranking of the experimental and control group analyzed by the Mann-Whitney U-test in an attempt to identify any significant difference between two groups prior to testing. The results of the comparison indicated that there was no significant differences ($p<.05$) between the two groups.

Treatment Effect. To examine the treatment effect between the two groups, a change score was calculated for each subject by subtracting the

post-test Lang Stress Management Inventory score from the pretest Lang Stress Management Inventory score. Table 2 presents the change score ranking of the experimental and control group analyzed by the Mann-Whitney U-test.

These data were analyzed in an attempt to identify any significant differences between the experimental and control groups after the treatment. The results of the comparisions indicated that there was a significant difference ($p < .05$) between the two groups.

Conclusion

The present study sought to investigate whether Stress Management could be enhanced among students at Emporia State University after the completion of a personal health course. The personal health course included a 14-week instructional mini-course on Stress Management. Based upon the findings of the research, the following conclusion was drawn:

1. The inclusion of a stress management mini-course into a personal health course at Emporia State University, Emporia, Kansas was successful in helping university students to enhance their management of stress.

Health Educators teaching personal health courses need to be aware that a stress management mini-course can be successfully integrated into the normal curriculum, without disrupting the normal flow.

The students can be shown that they are totally responsible for their own health and welfare. They must realize that the health of human beings is determined by their behavior, their food, and the nature of their environment (Knowles, 1978). When students become aware of the fact that if they can manage their stress, then this positive health behavior will aid them greatly in the control of their health. They must realize that they are totally responsible for their health and they alone are the ones who must take care of their bodies.

INVENTORY RATING SCALE[1]

Directions: Enclosed is a list of statements regarding stress management behavior. Please read each statement and use the scale to the right to indicate its acceptability, based upon the degree to which the statement will reveal a subject's behavior (positive or negative) in regards to stress management. (Subjects responding to the inventory will be indicating their participation, or non-participation in the statement of stress management.) In this manner you will be judging the curricular validity of these behavior statements with respect to stress management. The inventory has been developed for use with eighth grade students.

The scale values are defined as follows:

1. NOT ACCEPTABLE: The item has no value as a statement for measuring the subject's stress management behavior.

2. SOMEWHAT ACCEPTABLE: The item has some value as a statement for measuring the subject's stress management behavior.

3. ACCEPTABLE: The statement is valuable as a statement for measuring the subject's stress management behavior.

4. VERY ACCEPTABLE: The item is very valuable as a statement for measuring the subject's stress management behavior.

5. INDISPENSABLE: The item is absolutely necessary as a statement for measuring the subject's stress management behavior.

[1] The scale was developed by Dr. Gary Gilmore for use in his doctoral dissertation, The Development, Implementation, and Evaluation of a Family Health Education Program Incorporating the Concept of Prevention, The University of Tennessee, June 1974.

STRESS MANAGEMENT BEHAVIOR INVENTORY

Directions: Read the statement and place an "X" under the column which best answers the statement for you.

		Never	Usually	Always
1.	At bedtime, I fall asleep easily.	____	_____	_____
2.	I get 6-8 hours sleep every night.	____	_____	_____
3.	If I wake up in the middle of the night, it's not difficult for me to fall asleep again.	____	_____	_____
4.	I bite my fingernails, or tap my foot, or start to perspire when I cannot handle pressure.	____	_____	_____
5.	I take 15 or 20 minutes a day for myself to do whatever I want.	____	_____	_____
6.	Rather than worrying about something I can't solve immediately, I go ask for help.	____	_____	_____
7.	I don't worry about exams when I am well prepared.	____	_____	_____
8.	I consciously take time each day to relax.	____	_____	_____
9.	I get tired during the day (Except after strenuous physical activity).	____	_____	_____
10.	I know that extreme pressure or tension plays a role in causing heart attacks, and I am trying to learn some specific relaxation skills to control that pressure.	____	_____	_____
11.	I am happy with my life when I am able to control my problems.	____	_____	_____
12.	I recognize and know how to handle things that upset me.	____	_____	_____
13.	I know how much pressure I can manage and do something to control that pressure.	____	_____	_____
14.	I eat more than I should when under pressure.	____	_____	_____
15.	I lose control, when I get mad.	____	_____	_____

Table 1

Results of Comparison of Pretest
Stress Management Behavior by Mann-Whitney U-test.

Experimental	Rank	Control	Rank
51	10.0	49	14.5
65	1.5	47	20.0
47	20.0	43	30.0
65	1.5	47	20.0
53	7.0	45	27.0
55	5.5	41	32.0
47	20.0	46	24.5
49	14.5	45	27.0
45	27.0	47	20.0
39	34.0	51	10.0
47	20.0	39	34.0
49	14.5	49	14.5
47	20.0	51	10.0
51	10.0	43	30.0
39	34.0	63	3.5
51	10.0	$N_2 = 15$	$R_2 = 317.0$
55	5.5		
63	3.5		
46	24.5		
43	30.0		
$N_1 = 20$	$R_1 = 313.0$		

$U = 103$

Crit $U \leq 90$

Table 2

Results of Comparison of Change Score Values of Stress Management Behavior by Mann-Whitney U-Test.

Experimental	Rank	Control	Rank
10	10.5	2	24.5
0	28.0	2	24.5
4	20.0	4	20.0
2	24.5	-6	35.0
14	4.0	8	14.75
8	14.75	10	10.5
16	3.0	8	14.75
12	6.5	0	28.0
4	20.0	-2	31.0
22	1.0	-2	31.0
20	2.0	8	14.75
2	24.5	-4	33.5
10	10.5	10	10.5
4	20.0	-4	33.5
12	6.5	-2	31.0
4	20.0	$N_2 = 15$	$R_2 = 357.25$
12	6.5		
0	28.0		
12	6.5		
6	17.0		
$N_1 = 20$	$R_1 = 273.75$		

$U = 62.75$

Crit $U \leq 90.00$

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